### Indiana State Trauma Care Committee

December 11, 2015



### Regional Roadmap

Katie Hokanson, Director

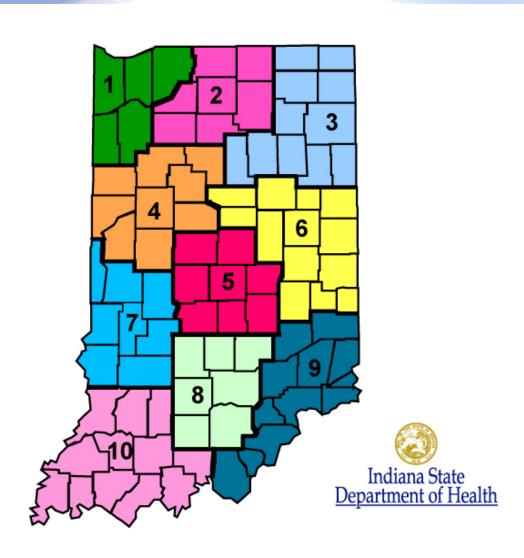
Ramzi Nimry, Trauma System Performance

Improvement Manager

Division of Trauma and Injury Prevention



## Indiana's Public Health Preparedness Districts (PHPDs)

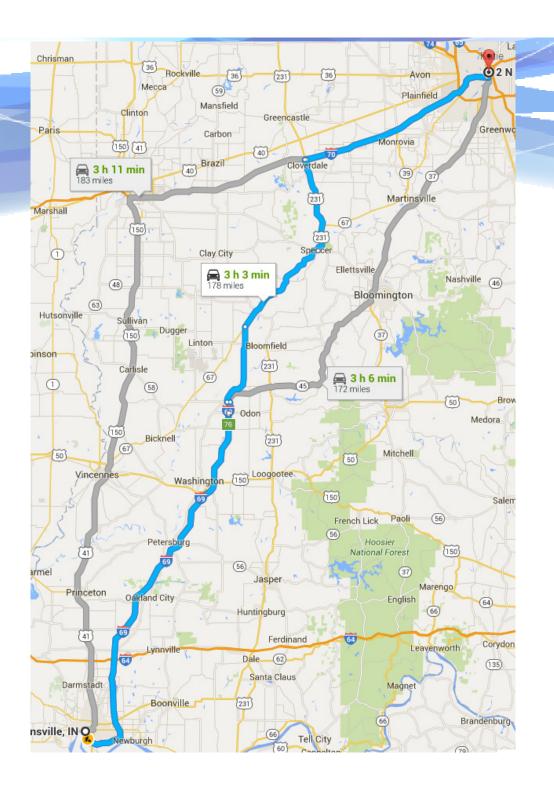


## Goal of the regional roadmap

- Provide Public Health Preparedness Districts (PHPDs) with tools/resources for regional system development.
- Highlight the critical role of regional trauma systems.
- Everyone (EMS, hospitals, rehabilitation) is part of the system.

Indiana State

<u>Department of Health</u>



## Year 1 goals of regional development

- Meet & Greet
  - Meet with each hospital/EMS provider/rehabilitation facility in the district.
    - System approach.
    - Resource coordination.
    - Improved trauma patient care.
    - Reducing injuries in Indiana through injury prevention.
- Establish Advisory Council.
- Determine meeting structure & topics

## Goal of the Regional System - State Perspective

- Increase communication between state, regional, local entities.
- Address regional PI issues based on hospital/district/statewide data.
- Utilize regional councils to collaborate on statewide injury prevention initiatives.

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### Regional Updates



8

### Regional updates

- District 1
- District 3
- District 6
- District 7
- District 8
- District 10



# Trauma Center Advertising

**Art Logsdon,** Assistant Commissioner *Health & Human Services Commission* 



Email questions to: indianatrauma@isdh.in.gov

#### Trauma Center Advertising

- "In the process of ACS verification" trauma centers are considered trauma centers for the purposes of the EMS Commission's Triage & Transport Rule.
  - Are these hospitals allowed to advertise themselves as trauma centers to the general public?

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## Trauma Center Advertising (continued)

- Nothing in the rule prohibits hospitals that are in the process of ACS verification from advertising themselves as trauma centers.
- The rule defines a trauma center in three ways, including hospitals that are in the ACS verification process.
- ISDH does not have the authority to change the Triage & Transport Rule.

## Trauma Center Advertising (continued)

- If the EMS Commission does not intend for these hospitals to advertise:
  - They must change the definition of "trauma center" in the rule, OR
  - They must specifically promulgate a rule to prohibit this type of advertising.

### Risk-Adjusted Benchmarking

Art Logsdon, Assistant Commissioner

Health & Human Services Commission

Katie Hokanson, Director

Division of Trauma & Injury Prevention



Email questions to: indianatrauma@isdh.in.gov

#### Risk-Adjusted Benchmarking

• The American College of Surgeons Committee on Trauma (ACS COT) currently requires that ACS verified trauma centers participate in a risk-adjusted benchmark program (CD 15-5) as part of the standards set forth in the 2014 Resources for Optimal Care of the Injured Patient.

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## Risk-Adjusted Benchmarking (continued)

- The ACS COT is changing CD 15-5 to the following: All trauma centers must use a riskadjusted benchmarking system to measure performance and outcomes (CD 15-5).
  - This program should be the ACS-COT Trauma Quality Improvement Program (TQIP).
- As of **January 1, 2017** all centers must be enrolled in TQIP.

## Risk-Adjusted Benchmarking (continued)

- Thoughts from the committee?
  - Is this is a good/bad thing?
  - Should the state look at participating in TQIP as a state with this new requirement?
  - How will this impact our system development (hospitals looking at becoming "in the process")?

## Subcommittee Updates Pl Subcommittee

Dr. Larry Reed, Trauma Medical Director

IU Health – Methodist Hospital



18

## INDIANA STATE TRAUMA CARE COMMITTEE

Performance Improvement Subcommittee Report

#### PI Subcommittee Members

- Merry Addison
- Lynne Bunch
- Annette Chard
- Christy Claborn
- Kristi Croddy
- Dawn Daniels
- Amy Deel
- Emily Dever
- Bekah Dillon
- Amanda Elikofer
- Brittanie Fell
- Spencer Grover
- Jodi Hackworth
- Kris Hess
- Missy Hockaday
- Lisa Hollister
- Dr. Peter Jenkins
- Michele Jolly
- Sean Kennedy
- Lesley Lopossa

- Jeremy Malloch
- Carrie Malone
- Kasey May
- Kelly Mills
- Jennifer Mullen
- Regina Nuseibeh
- Tracy Spitzer
- Wendy St. John
- Amanda Rardon
- Dr. Larry Reed
- Dustin Roe
- Mary Schober
- Tracy Spitzer
- Chuck Stein
- Latasha Taylor
- Cindy Twitty
- Chris Wagoner
- Adam Weddel
- Lindsey Williams

12/22/2015

### IDSH Staff PI Subcommittee

- Katie Hokanson
- Ramzi Nimry
- Jessica Skiba
- Camry Hess

#### PI Subcommittee Meetings

- $\blacksquare$  Met on 11/10/2015 to cover the following issues:
  - Increase the number of hospitals reporting to the Indiana Trauma Registry
  - Decrease the average Emergency Department length of stay at non-trauma centers
  - Increase EMS run sheet collection
  - Reviewed metrics, eliminating some that provided no value
  - Discussion of potential new metrics
    - Triage & Transport Rule issues
    - Double transfers
    - Data Quality Dashboard for linking cases
    - Additional registry values for "Reason for Transfer Delay"
    - TQIP & risk-adjusted benchmarking requirement
    - Regional PI
- $\blacksquare$  Met on 12/9/2015 and discussed the following issues:
  - ED LOS for patients transferred from non-trauma centers
  - Regional Trauma System Development
  - Review of other States' PI measures

### Increase # of hospitals reporting to the Indiana Trauma Registry

| ISDH Actions to Date |        |  |
|----------------------|--------|--|
| Action               | Status |  |
|                      |        |  |
|                      |        |  |
|                      |        |  |
|                      |        |  |
|                      |        |  |
|                      |        |  |
|                      |        |  |
|                      |        |  |
|                      |        |  |
|                      |        |  |

#### Mentorship Program

### Completed Mentorship Programs between Trauma Centers & non-reporting hospitals

| Non-trauma center hospital  | Trauma Center           | Status           |
|---|-------------------------|------------------|
| IUH North   | IUH Methodist           | Completed12/2013 |
| Community Health - North<br>Community Health - East<br>St. Elizabeth - East | St. Vincent's - Indy    | Completed 2013   |
| Perry County<br>St. Mary's – Warrick<br>Terre Haute Regional                | St. Mary's - Evansville | Completed 2013   |
| Deaconess Gateway   | Deaconess - Evansville  | Completed 2015   |
| IUH Bedford   | IUH Bloomington         | Completed 2015   |
| St. Vincent Randolph  | IUH Ball Memorial       | Completed 2015   |
| Elkhart General<br>IUH LaPorte<br>IUH Starke                                | Memorial South Bend     | Completed 2015   |
| Franciscan St. Francis - Indianapolis                                       | IUH Methodist           | Completed 2015   |

### Hospitals Not Reporting Any Data

- District 1
  - Jasper County Hospital
  - St. Mary Medical Center (Hobart)
- District 2
  - IU Health Goshen Hospital
- District 3
  - Adams Memorial Hospital
  - Dupont Hospital
  - St. Joseph Hospital (Fort Wayne)
  - VA Northern Indiana Healthcare System
  - Wabash County Hospital

- District 5
  - Community Westview
  - Richard L Roudebush VA Medical Center
  - St. Vincent Carmel Hospital
  - St. Vincent Fishers Hospital
  - St. Vincent Peyton Manning Children's Hospital
  - St. Vincent Indianapolis is working with these facilities.
- District 8
  - St. Vincent Dunn Hospital
- District 9
  - Harrison County Hospital
  - St. Vincent Jennings Hospital
  - Kentuckiana Medical Center
- District 10
  - Gibson General Hospital

### Mentorship Program

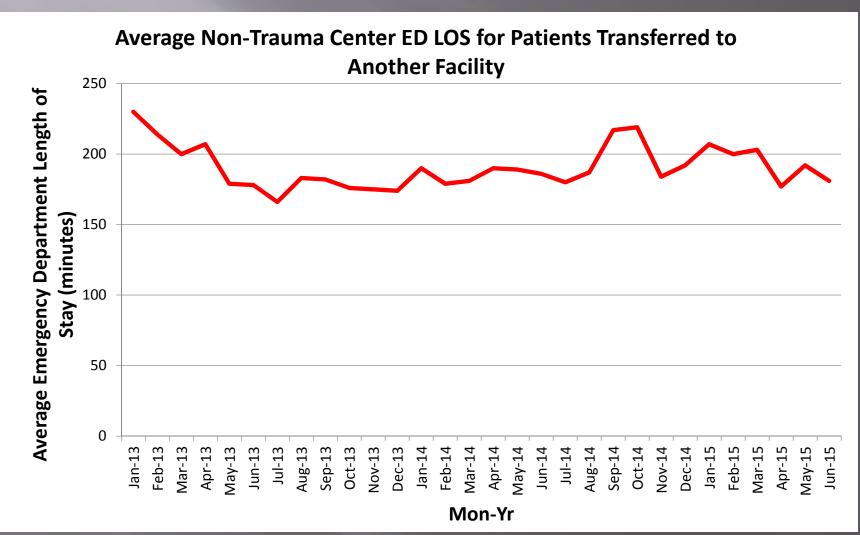
| In-Progress Mentorship Programs between Trauma Centers & non-reporting hospitals               |                           |                    |  |
|--|---------------------------|--------------------|--|
| Non-trauma center hospital   | Trauma Center             | In progress as of: |  |
| Terre Haute Regional<br>Good Samaritan Hospital<br>Memorial Hospital (Jasper)                  | St. Mary's Evansville     | 02/2015            |  |
| St. Vincent Anderson<br>St. Joseph Kokomo  | St. Vincent's - Indy      | 05/2015            |  |
| Community Health North, Community Health South St. Francis Indianapolis Good Samartan Hospital | IU Health - Ball Memorial | 05/2015            |  |
| Any Pediatric questions  | IUH Riley                 | 05/2015            |  |
| IU Health system-level support   | IUH Methodist             | 08/2015            |  |
| IUH White Memorial Hospital  | IUH Arnett                | 08/2015            |  |
| Community Health West  | Community Health North    | 08/2015            |  |
| Community Health Network Terre Haute Regional  | Eskenazi Health           | 08/2015            |  |
| St. Elizabeth Crawfordsville<br>Memorial Hospital (Jasper)                                     | St. Elizabeth East        | 08/2015            |  |
| Memorial Hospital (Jasper)   | Deaconess                 | 08/2015            |  |
| St. Vincent Dunn   | IUH Bloomington           | 11/2015            |  |
| Wabash data collection   | Parkview RMC              | 11/2015            |  |
| Dupont Hospital<br>St. Joseph (Fort Wayne)   | Lutheran                  | 11/2015            |  |

### Increase # of hospitals reporting to the Indiana Trauma Registry

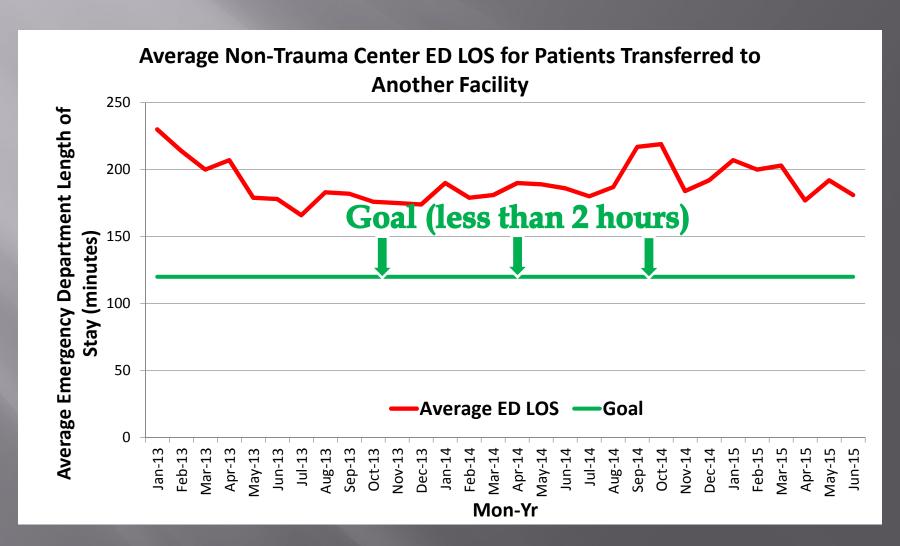
For Quarter 2, 2015

95 hospitals
reported data!!

### Decrease the average ED LOS at non-trauma centers



### Decrease the average ED LOS at non-trauma centers



### Decrease the average ED LOS at non-trauma centers

- Will develop initiative-specific scorecards for each facility
  - Develop and deliver individual facility reports for ED LOS > 2 hours
  - Provide data as percentage of transferred patients with ED LOS > 2 hours (instead of average LOS)
- Current data available cannot identify reasons for prolonged lengths of stay prior to transfers
  - Developing specific data elements to identify potential reasons for prolonged ED LOS

### Current Values for "Reason for Transfer Delay"

- EMS Issue
- Other
- Receiving Hospital Issue
- Referring Physician Decision-Making
- Referring Hospital Issue-Radiology
- Weather or Natural Factors

### Potential Additional Data Items for "Reason for Transfer Delay"

- EMS issue
  - No response for transfer
  - Out of county
  - Unavailable
  - Ground critical care not available
  - Shortage of ground transport availability
  - Air transport not available due to weather
  - Air Transport ETA > Ground Transport TAT
  - Condition of patient warranted securing higher level of transport than what was immediately available (i.e. pediatric transport specialists)
- ED volume/capacity at time of event
- Patient not identified as trauma patient at time of event
- Imaging
- New staff in ED

- Communication issue
  - Nursing delay in calling for/arranging transport
  - Nursing delay in contacting EMS
- Referring Facility issue
  - Surgeon availability
  - Radiology workup delay
  - Priority of transfer
  - Referring physician decision-making
- Receiving Hospital Issue
  - Bed availability
  - Surgeon decision making
  - Difficulty obtaining accepting MD
  - Difficultly obtaining accepting hospital
- Time required to ensure stability of patient prior to transfer
- Change in patient condition
- □ Transport/Triage Decision low triage for transfer

#### Potential New PI Metrics to Evaluate

- Triage & Transfer Rule issues
  - 45 minute rule
    - Use trauma registry data for accurate determination of EMS providers meeting requirement.
    - Previous discussion was around identifying ZIP codes that are within 45 minutes of a trauma center no matter where they are in the ZIP code.
    - Katie provided a data analysis of this issue to the Designation Subcommittee.
      - Requires further discussion
    - Analyzing patients that met Step 1 Criteria in the field from January 1, 2014 to December 31, 2014
      - Will be presented to further PI Subcommittee meeting
- Double transfers
  - Patients sequentially transferred to more than one facility
- Data Quality Dashboard Camry Hess is developing

#### New Discussion Item: TQIP and Risk-Adjusted Benchmarking Requirement

"For Level III centers to satisfy the riskadjusted benchmarking requirement, the center must participate in the TQIP pilot program." (https://www.facs.org/quality-programs/trauma/vrc/site-packet)

#### Regional Performance Improvement: Illinois Model

- Cases Reviewed:
  - Deaths caused by traumatic injury
    - Excluding DOA
    - Excluding head AIS > 3
  - And TRISS > .75
- Each trauma center (trauma medical director and/or coordinator) presents to the region 6 months' worth of completed data 2x/year on:
  - Unexpected deaths.
  - Other interesting cases (ex: unexpected survivors).
- Data is presented during the regular district meeting and all members can be involved in the discussion.
- Data are confidential and bound by the Medical Studies Act
- Conclusions (minus the identifiers) are included in the regular meeting minutes

#### Other States' Pl Measures

- Sought to find commonly employed trauma system PI measures that we could adopt
- Ramzy Nimry compiled a listing of PI Measures obtained from other states
- 248 *different* measures
  - Very little consistency
  - Most commonly employed (3 states): "Trauma patients with more than 1 inter-hospital transfer prior to definitive care"
  - 36 measures used by as many as 2 states
  - All of the remaining 231 measures used by only 1 state
- While some of these may be useful to us at some point, for now we need to focus on issues that are pertinent to our evolving system
  - Data capture
  - Data accuracy
  - Improving the processes of care (i.e., referring ED LOS, EMS data integration)

# Increase EMS run sheet collection

- Please continue to send Katie a list of EMS providers not leaving run sheets
- We are seeking to provide list to EMS Commission at their next meeting
- Instead of creating guidelines or a form that EMS providers can leave at hospitals when dropping off patients (given the problem with consistent EMS data capture), the Subcommittee recommends the implementation of a "60 second timeout" when EMS arrives at the hospital with the patient
  - Allows the recording nurse to document pre-hospital care

### Other Assistance Needed

- Provide us with possible reasons for prolonged
   ED LOS at referring hospitals
  - We will be reviewing them at our next PI Subcommittee Meeting on January 12, 2016
  - Will add them as potential Registry data elements to check
- Any other ideas for potential additional PI Measures are appreciated

# Thank you!!

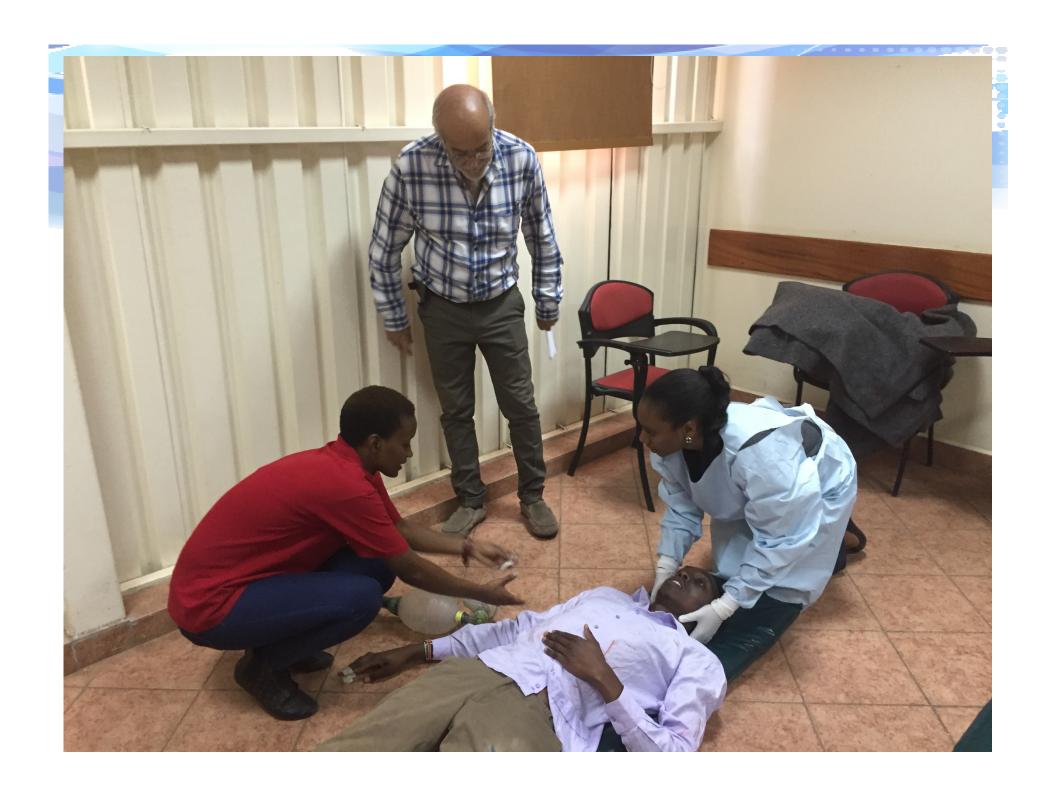
# Subcommittee Updates Designation Subcommittee

Dr. Lewis Jacobson, Trauma Medical Director

St. Vincent Indianapolis Hospital



40







# "In the Process" Updates

- Methodist Hospital Northlake Campus:
  - Trauma surgeon response times.
- Good Samaritan Hospital:
  - Meeting attendance.
- Community Hospital of Anderson:
  - Meeting attendance.

# Trauma Registry Report

Camry Hess, Database Analyst
Ramzi Nimry, Trauma System Performance
Improvement Manager
Division of Trauma and Injury Prevention



# Indiana Trauma Care Committee Meeting

December 11, 2015

Indiana State Department of Health
Division of Trauma and Injury Prevention



#### **District 1**

Community Hospital - Munster

Franciscan St. Anthony – Crown Point

Franciscan St. Anthony – Michigan City

Franciscan St. Margaret – Dyer

Franciscan St. Margaret - Hammond

IU Health - La Porte

**Jasper County** 

Methodist Hospital Northlake

Methodist Hospital Southlake

Portage Hospital

Porter Regional Hospital (Valparaiso)

#### **District 2**

Community Hospital of Bremen Elkhart General Hospital

IU Health - Goshen

IU Health - Starke Hospital

Kosciusko Community Hospital

Memorial Hospital South Bend

Pulaski Memorial Hospital

St. Catherine Regional – East Chicago

St. Joseph Regional Medical Center (Mishawaka) St. Joseph Regional Medical Center (Plymouth) Woodlawn Hospital

#### **District 3**

Bluffton Regional Medical Center

Cameron Memorial Community Hospital

DeKalb Health

**Dukes Memorial Hospital** 

#### **Dupont Hospital**

Lutheran Hospital of Indiana

Parkview Huntington Hospital

Parkview LaGrange Hospital

Parkview Noble Hospital

Parkview Randallia

Parkview Regional Medical Center

Parkview Whitley Hospital

#### **District 4**

Franciscan St. Elizabeth - Crawfordsville

Franciscan St. Elizabeth – Lafayette East

IU Health – Arnett Hospital

IU Health - White Memorial

Memorial Hospital (Logansport)

St. Vincent Frankfort

St. Vincent Williamsport Hospital

#### **District 5**

Community East Health Network Community Hospital

Community North health Network Community Hospital

Community South health Network Community Hospital

Eskenazi Health

Franciscan St. Francis Health – Indianapolis

Franciscan St. Francis Health – Mooresville

Hancock Regional Hospital

Hendricks Regional Health

IU Health - Methodist Hospital

IU Health – Morgan Hospital

IU Health – North Hospital

IU Health – Riley for Children

IU Health - Saxony Hospital

Johnson Memorial Hospital

Major Hospital

Riverview Hospital

St. Vincent - Indianapolis

Witham Health Services

Witham Health Services at Anson

#### **District 6**

Community Hospital of Anderson & Madison Co.

Community Howard Regional Health

Fayette Regional Health System

Henry County Memorial Hospital

IU Health – Ball Memorial Hospital

IU Health – Blackford Hospital

IU Health - Tipton Hospital

Jay County Hospital

Marion General Hospital

Reid Hospital and Health Care Services

Rush Memorial Hospital

St. Vincent Anderson Regional Hospital

St. Vincent Kokomo

St. Vincent Mercy Hospital

St. Vincent Randolph Hospital

#### **District 7**

**Greene County General Hospital** 

**Putnam County Hospital** 

St. Vincent Clay Hospital

Sullivan County Community Hospital

Terre Haute Regional Hospital Union Hospital (Terre Haute) Union Hospital Clinton

#### **District 8**

**Columbus Regional Hospital** 

IU Health – Bedford Hospital

IU Health – Bloomington Hospital

IU Health – Paoli Hospital

Monroe Hospital

Schneck Medical Center

St. Vincent Salem Hospital

#### **District 9**

Clark Memorial Hospital

**Dearborn County Hospital** 

Decatur County Memorial Hospital

Floyd Memorial Hospital and Health Services

**Harrison County** 

King's Daughters' Health

Margaret Mary Community Hospital

Scott County Memorial Hospital

#### **District 10**

**Daviess Community Hospital** 

Deaconess Hospital

**Deaconess Gateway Hospital** 

#### Gibson General

Good Samaritan Hospital

Memorial Hospital & Health Care Center

Perry County Memorial Hospital

St. Mary's Medical Center of Evansville

St. Mary's Warrick Hospital

# Summary of Hospitals Reporting Status- Q2 2015

# New to Reporting / Started Reporting Again

- Bluffton Regional Medical Center
- Community Howard Regional Health
- Dearborn County Hospital
- Hancock Regional Hospital
- St. Vincent Mercy Hospital
- St. Vincent Randolph Hospital

#### **Dropped off**

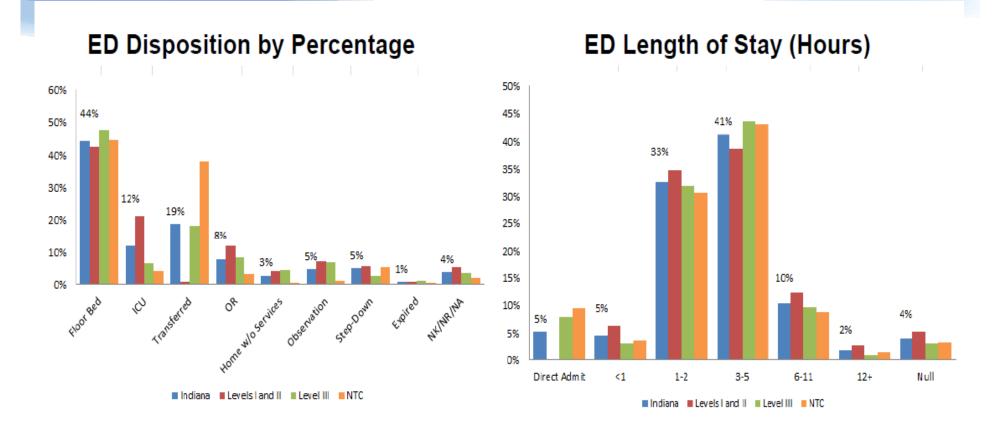
- Columbus Regional Hospital
- Dupont Hospital
- IU Health Starke Hospital
- Margaret Mary Community Hospital
- Portage Hospital
- Sullivan County Community Hospital

# Quarter 2 2015 Statewide Report

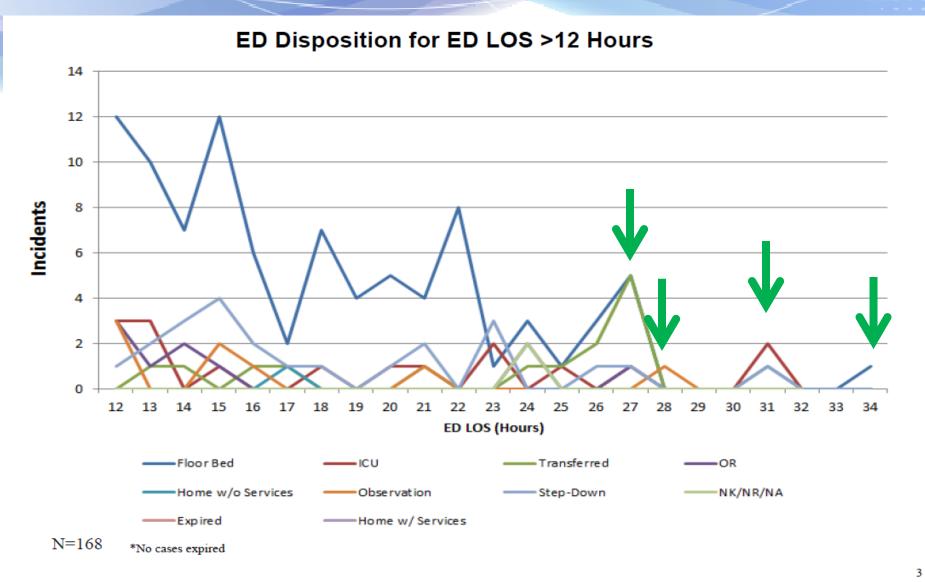
- 8,605 incidents
- April 1, 2015 June 30, 2015
- 95 total hospitals reporting
  - 9 Level I and II Trauma Centers
  - 10 Level III Trauma Centers
  - 76 Non-Trauma Hospitals



### ED: Disposition / Length of Stay - Page 2



### ED LOS > 12 Hours - Page 3



# ED LOS > 12 Hours - Page 4

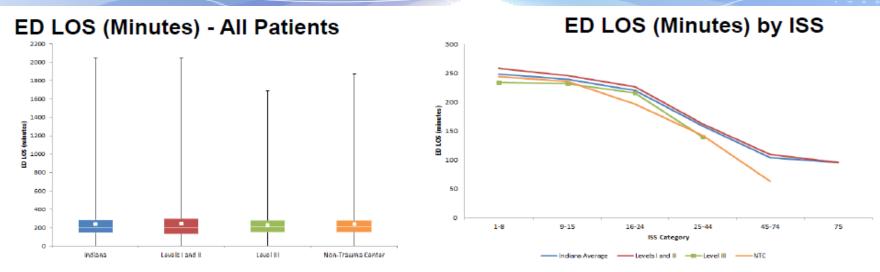
#### ED LOS > 12 Hours, N=121

| Facilities                                 | 85 Level I and II<br>8 Level III<br>28 Non-trauma Centers                                      | ISS              | 68 (1-8 cat); 45 (9-15 cat); 6 (16-24); 1 (25 -44); 1 (No ISS)   |
|--|--|------------------|--|
| Average Distance from<br>Scene to Facility | 6.2 Miles  | RTS—Systolic     | 4 (2-4)  |
| Transport Type                             | 90 Ambulance; 5 Helicopter, 26 Private Vehicle/Walk-In   | RTS—GCS Scale    | 3.9 (0-4)  |
| Trauma Type                                | 111 Blunt; 10 Penetrating  | RTS—Resp. Scale  | 3 (3-4)  |
| Cause of Injury                            | 63 Fall; 31 MVC; 9 Struck by,<br>Against; 4 Firearm; 6 Transport; 6<br>Cut/Pierce; 2 Bicyclist | RTS              | 7.4 (3.8-7.8)  |
| Signs of Life                              | 110 Yes; 11 No   | B Value          | 3.97 (0-5.6)   |
| Age  | 57.5 Years (6-95 Years)  | Ps               | 0.97 (0.45-1)  |
| Gender                                     | 62 Female; 59 Male   | Resp. Assistance | 6 Yes; 113 No; 2 Unknown   |
| Interfacility Transfer                     | 26 Yes; 95 No  | ED LOS           | 18.5 (12-34)   |
| Region                                     | 23 North; 73 Central; 6 South; 19<br>Missing   | ED Disposition   | 1 AMA; 67 Floor bed; 1 Home w/o services; 11 ICU; 4 Observation; 9 OR; 21 Step-down; 6 Transferred; 1 NA |

<sup>-</sup>Region was created from injury zip code. Missing = no injury zip or injury zip from out of state.

<sup>-</sup>Numbers represent counts per category or mean with minimum and maximum in parentheses.

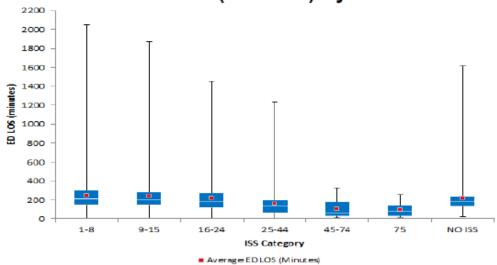
### ED Length of Stay: Bar & Whisker - Page 5



A table with all the values for ED LOS is found on page 47.

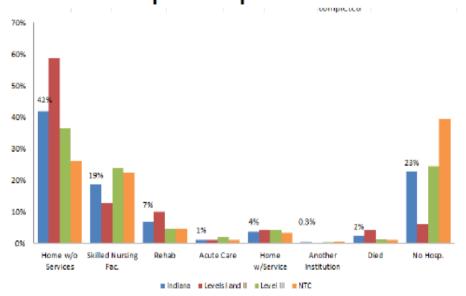
#### ED LOS (Minutes) by ISS

Note for EDLOS by ISS, there were 8 cases with ISS of 75; none were at non-trauma centers.

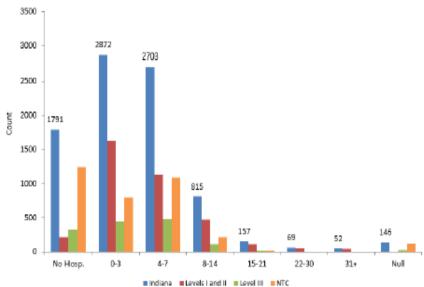


### Hospital Disposition and LOS - Page 6

#### **Hospital Disposition**



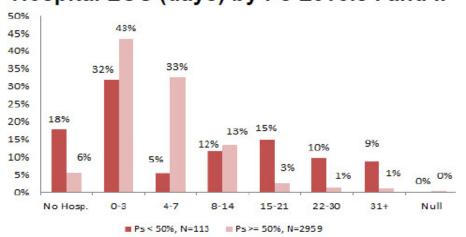
#### Hospital Length of Stay (days)



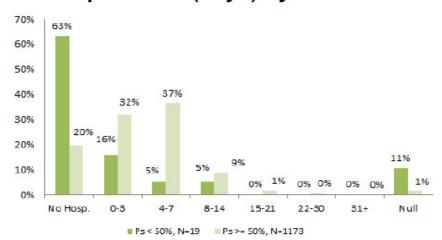
<sup>\*</sup>There are new categories for the Hospital Disposition for the 2014 Data Dictionary <1%: null, psych., long term care hospital, AMA, hospice and intermediate care.

# Hospital LOS by Ps - Page 7

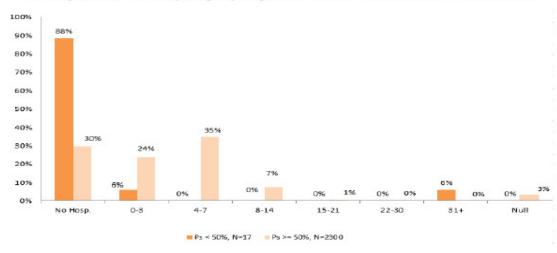
#### Hospital LOS (days) by Ps Levels I and II



#### Hospital LOS (days) by Ps Level III



#### Hospital LOS (days) by Ps Non-Trauma Centers



# **ED Disposition Expired - Page 8**

#### ED Disposition of Expired for Ps ≥ 50%, N=10

| Facilities                                  | 2 Non-Trauma Centers<br>8 Trauma Centers       | ISS              | 3 (1-8 cat.); 4 (16-24 cat.); 1 (25-44); 2 No<br>ISS |
|---|--|------------------|--|
| Average Distance from<br>Scene to Facility* | 7.5 Miles                                      | RTS—Systolic     | 3.0 (0-4)  |
| Transport Type                              | 7 Ground ambulance; 2 Helicopter; 1<br>Walk-in | RTS—GCS Scale    | 1.8 (0-4)  |
| Trauma Type                                 | 10 Blunt                                       | RTS—Resp. Scale  | 3.2 (2-4)  |
| Cause of Injury                             | 2 Falls; 7 MVC; 1 Transport                    | RTS              | 4.8 (0.9-7.5)  |
| Signs of Life                               | 8 Yes; 2 No                                    | B Value          | 1.6 (0.04-2.97)                                      |
| Age   | 51.9 Years (17-92 Years)                       | Ps               | 0.8 (0.5-0.95)                                       |
| Gender                                      | 5 Female; 5 Male                               | Resp. Assistance | 3 Yes; 7 No  |
| Interfacility Transfer                      | 1 Yes; 9 No                                    | ED LOS           | 1.4 hours (0.13-3.55 hours)                          |
| Region                                      | 7 North; 3 Central                             |                  |  |

<sup>-</sup>Region was created from injury zip code. Missing = no injury zip or injury zip from out of state.

<sup>-</sup>Numbers represent counts per category or mean with minimum and maximum in parentheses.

### Trauma Centers - Page 9

#### ED Dispo ≠ Expired, Hospital Dispo = Expired for Ps ≥ 50%, N=108, Trauma Centers

| Interfacility Transfer                     | 43 Yes   | Interfacility Transfer                     | 65 No   |
|--|--|--|---|
| Average Distance from<br>Scene to Facility | 18.9 Miles   | Average Distance from<br>Scene to Facility | 7.3 Miles   |
| Transport Type                             | 23Ambulance; 20 Helicopter   | Transport Type                             | 45 Ambulance; 11 Helicopter; 8 Private<br>Vehicle; 1 Unknown  |
| Trauma Type                                | 33 Blunt; 2 Penetrating; 4 Burn; 4 Other   | Trauma Type                                | 57 Blunt; 1 Burn; 3 Penetrating; 4 Other  |
| Cause of Injury                            | 20 Fall; 10 MVC; 1 Struck by, Against;<br>2 Firearm; 2 Transport; 1 Machinery; 4<br>Fire/Burn; 3 Unknown | Cause of Injury                            | 34 Fall; 19 MVC; 1 Struck; 2 Firearm; 2<br>Transport; 1 Cut/Pierce; 1 Fire/Burn; 3<br>Not Categorized; 1 Natural; 1 Bicyclist |
| Signs of Life                              | 32 Yes; 1 No; 10 Unknown   | Signs of Life                              | 51 Yes; 1 No; 13 Unknown  |
| Age  | 58.8 Years (0.2-97 Years)  | Age  | 64 (1-98 Years)   |
| Gender                                     | 16 Female; 27 Male   | Gender                                     | 20 Female; 45 Male  |
| Region                                     | 6 North; 21 Central; 3 South   | Region                                     | 9 North; 30 Central; 12 South; 14 Other   |
| ISS  | 8 (1-8); 11 (9-15); 5 (16-24); 17 (25-44);<br>2 (45-74)  | ISS  | 4 (1-8); 19 (9-15); 9 (16-24); 32 (25-44); 1 (45-74)  |
| RTS—Systolic                               | 3.8 (2-4)  | RTS—Systolic                               | 3.8 (1-4)   |
| RTS—GCS Scale                              | 1.9 (0-4)  | RTS—GCS Scale                              | 2.7 (0-4)   |
| RTS—Resp. Scale                            | 3 (0-4)  | RTS—Resp. Scale                            | 3 (0-4)   |
| RTS  | 6.1 (3.8-7.8)  | RTS  | 6.4 (2.9-7.8)   |
| B Value                                    | 1.9 (0.2—3.6)  | B Value                                    | 1.8 (0.1-5.3)   |
| Ps   | 0.8 (0.6– .97)   | Ps   | 0.8 (0.5-1)   |
| Resp. Assistance                           | 20 Yes; 23 No  | Resp. Assistance                           | 16 Yes; 49 No   |
| ED LOS                                     | 2.7 Hours (0.5-9.7 Hours)  | ED LOS                                     | 3.6 Hours (0.3-22 Hours)  |

<sup>-</sup>Region was created from injury zip code. Missing = no injury zip or injury zip from out of state.

<sup>-</sup>Numbers represent counts per category or mean with minimum and maximum in parentheses.

### Non-Trauma Centers - Page 10

ED Dispo ≠ Expired, Hospital Dispo = Expired for Ps ≥ 50%, N=28, Non-trauma Centers

| Interfacility Transfer                     | 28 No   |
|--|---|
| Average Distance from<br>Scene to Facility | 8.7 Miles   |
| Transport Type                             | 25 Ambulance; 3 Private Vehicle                               |
| Trauma Type                                | 23 Blunt; 1 Burn; 1 Penetrating; 3 Other                      |
| Cause of Injury                            | 22 Falls; 1 MVC; 1 Firearm; 1 Fire/Burn; 3<br>Not Categorized |
| Signs of Life                              | 28 Yes  |
| Age  | 80 (28-98)  |
| Gender                                     | 12 Females; 16 Males  |
| Region                                     | 8 North; 12 Central; 6 South                                  |
| ISS  | 10 (1-8); 15 (9-15); 0 (16-24); 2 (25-44); 1<br>Unknown       |
| RTS—Systolic                               | 3.9 (3-4)   |
| RTS—GCS Scale                              | 3.5 (0-4)   |
| RTS—Resp. Scale                            | 3.0 (2-4  |
| RTS  | 7.2 (5.4-7.6)   |
| B Value                                    | 2.9 (1.2-3.8)   |
| Ps   | 0.9 (0.8-9.8)   |
| Resp. Assistance                           | 7 Yes; 13 No; 8 Unknown                                       |
| ED LOS                                     | 4.8 Hours (1.6-20.4)  |

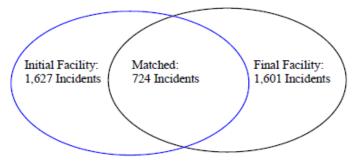
<sup>-</sup>Region was created from injury zip code. Missing = no injury zip or injury zip from out of state.

<sup>-</sup>Numbers represent counts per category or mean with minimum and maximum in parentheses.

### Linking - Page 11

For Quarter 2, 2015, of the 8,605 incidents reported to the Indiana Trauma Registry, 1,627 cases that had an ED Disposition of "Transferred to another acute care facility" at the initial facility or that had the Inter-Facility Transfer equal to "Yes" at the Trauma Center. Of those transferred, 430 cases were probabilistically matched. The linked cases make up 22% of the Q2 2015 data. All public health preparedness districts are represent-

ed. The diagram below illustrates the overlap between the transfers reported from the initial facility and from the final facility that can be matched.



The initial facility in which transfers come from may be considered Critical Access Hospitals (CAHs). All Indiana CAHs are considered Rural, and must meet additional requirements to have a CAH designation, such as having no more than 25 inpatient beds and being located in a rural area. Facilities that are highlighted indicate that these facilities reported data for Quarter 2, 2015.

Within this transfer data section, the purple columns represent the transfer cases and the single percentages represent the percent for the transfer cases. For two demographic variables, patient age groupings and gender, the Indiana average is included to provide more insight to this transfer population.

| Indiana Critical Ad | cess Hospitals | (CAHs) |
|---------------------|----------------|--------|
|---------------------|----------------|--------|

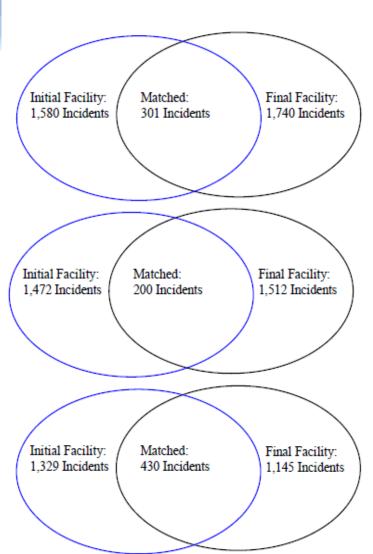
| Adams Memorial Hospital                 | Perry County Memorial Hospital          |
|---|---|
| Cameron Memorial Community Hospital Inc | Pulaski Memorial Hospital               |
| Community Hospital of Bremen Inc        | Putnam County Hospital                  |
| Decatur County Memorial Hospital        | Rush Memorial Hospital                  |
| Dukes Memorial Hospital                 | Scott Memorial Hospital                 |
| Gibson General Hospital                 | St Vincent Frankfort Hospital Inc       |
| Greene County General Hospital          | St Vincent Jennings Hospital Inc        |
| Harrison County Hospital                | St Vincent Mercy Hospital               |
| IU Health Bedford Hospital              | St Vincent Randolph Hospital Inc        |
| IU Health Blackford Hospital            | St Vincent Salem Hospital Inc           |
| IU Health Paoli Hospital                | St. Mary's Warrick Hospital Inc         |
| IU Health Tipton Hospital               | St. Vincent Clay Hospital Inc           |
| IU Health White Memorial Hospital       | St. Vincent Dunn Hospital Inc           |
| Jasper County Hospital                  | St. Vincent Williamsport Hospital, Inc. |
| Jay County Hospital                     | Sullivan County Community Hospital      |
| Margaret Mary Community Hospital Inc    | Union Hospital Clinton                  |
| Parkview LaGrange Hospital              | Woodlawn Hospital                       |
| Parkview Wabash Hospital                |   |
| D                                       | l lla audéala                           |

#### Rural Hospitals

| _ | Columbus Regional Hospital                      | King's Daughters' Health                 |
|---|---|--|
| - | Daviess Community Hospital                      | Kosciusko Community Hospital             |
|   | Fayette Regional Health System                  | Marion General Hospital                  |
|   | Franciscan St Anthony Health - Michigan City    | Memorial Hospital                        |
|   | Franciscan St Elizabeth Health - Crawfordsville | Memorial Hospital and Health Care Center |
|   | Good Samaritan Hospital                         | Parkview Noble Hospital                  |
|   | Henry County Memorial Hospital                  | Reid Hospital & Health Care Services     |
|   | Indiana University Health La Porte Hospital     | Saint Joseph RMC - Plymouth              |
|   | Indiana University Health Starke Hospital       | Schneck Medical Center                   |
|   |   | •  |

# Historical Links - Page 12

#### **Historical Links**



For Quarter 3, 2014, of the 8,814 incidents reported to the Indiana Trauma Registry, 1580 cases that had an ED Disposition of "Transferred to another acute care facility" at the initial facility or that had the Inter-Facility Transfer equal to "Yes" at the Trauma Center. Of those transferred,

301 cases were probabilistically matched. The linked cases make up 9.1% of the Q3 2014 data. All public health preparedness districts are represented. The diagram below illustrates the overlap between the transfers reported from the initial facility and from the final facility that can be matched.

For Quarter 4, 2014, of the 8,052 incidents reported to the Indiana Trauma Registry, 1472 cases that had an ED Disposition of "Transferred to another acute care facility" at the initial facility or that had the Inter-Facility Transfer equal to "Yes" at the Trauma Center. Of those transferred,

200 cases were probabilistically matched. The linked cases make up 6.7% of the Q4 2014 data. All public health preparedness districts are represented. The diagram below illustrates the overlap between the transfers reported from the initial facility and from the final facility that can be matched.

For Quarter 1, 2015, of the 7,050 incidents reported to the Indiana Trauma Registry, 1,329 cases that had an ED Disposition of "Transferred to another acute care facility" at the initial facility or that had the Inter-Facility Transfer equal to "Yes" at the Trauma Center. Of those transferred,

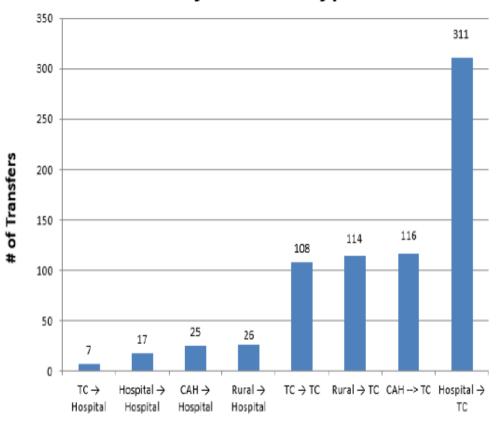
430 cases were probabilistically matched. The linked cases make up 17% of the Q1 2015 data. All public health preparedness districts are represented. The diagram below illustrates the overlap between the transfers reported from the initial facility and from the final facility that can be matched.

## Transfer Patient: Facility Type - Page 13

#### **Facility to Facility Transfers**

| For Transfer Patients:      |                        |                    |  |  |
|-----------------------------|------------------------|--------------------|--|--|
| Initial Hospital<br>Type    | Final Hospital<br>Type | Incident<br>Counts |  |  |
| Trauma Center               | Hospital               | 7                  |  |  |
| Hospital                    | Hospital               | 17                 |  |  |
| Critical Access<br>Hospital | Hospital               | 25                 |  |  |
| Rural                       | Hospital               | 26                 |  |  |
| Trauma Center               | Trauma Center          | 108                |  |  |
| Rural                       | Trauma Center          | 114                |  |  |
| Critical Access<br>Hospital | Trauma Center          | 116                |  |  |
| Hospital                    | Trauma<br>Center       | 311                |  |  |

#### **Facility Transfer Type**



Rural = Rural Hospital; TC = ACS Verified or In Process Trauma Center;

CAH = Critical Access Hospital; Hospital = does not fall into above categories

### Linked Transfer Patient Averages - Page 14

#### For Linked Transfer Patients:

| For Transfer Patients:   |                          |                         |                               |                         |                         |
|--|--------------------------|-------------------------|-------------------------------|-------------------------|-------------------------|
|  | All Transfer<br>Patients | Critical*               | Physiological Crit-<br>ical** | ISS Critical***         | <u>Ps &lt;0.5****</u>   |
| Number of Patients   | 724                      | 407                     | 384                           | 60                      | 5                       |
| EMS Notified to Sce-<br>ne                                       | 8.6 minutes              | 9.0 minutes             | 9.1 minutes                   | 8.3 minutes             | 12.8 minutes            |
| EMS Scene Arrival to<br>Departure                                | 20.7 minutes             | 24.0 minutes            | 24.5 minutes                  | 55.2 minutes            | 13.4 minutes            |
| EMS Scene Depar-<br>ture to Initial Hospital<br>ED Arrival       | 16.7 minutes             | 15.5 minutes            | 15.4 minutes                  | 15.9 minutes            | 17.2 minutes            |
| Initial Hospital ED<br>Arrival to<br>Departure                   | 2 hours<br>58.4 minutes  | 2 hours<br>51.6 minutes | 2 hours<br>51.3 minutes       | 2 hours<br>30.1 minutes | 1 hour<br>6.6 minutes   |
| Initial Hospital ED<br>Departure to Final<br>Hospital ED Arrival | 58.1 minutes             | 1 hour<br>1.2 minutes   | 1 hour<br>1.2 minutes         | 56.5 minutes            | 29.2 minutes            |
| TOTAL TIME   | 4 hours<br>42.5 minutes  | 4 hours<br>41.3 minutes | 4 hours<br>41.5 minutes       | 4 hours<br>46 minutes   | 2 hours<br>19.2 minutes |

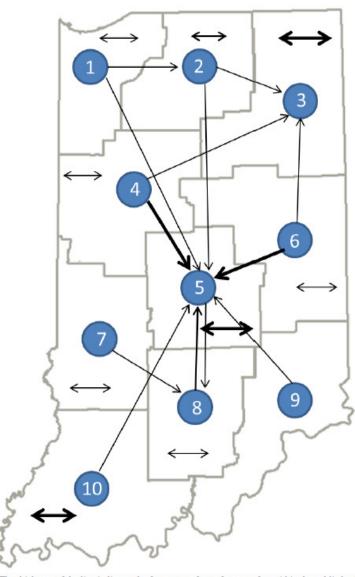
<sup>\*</sup>Critical patient is defined as having a GCS ≤ 12, OR Shock Index > 0.9 OR ISS > 15 at the initial hospital.

<sup>\*\*</sup>Physiological Critical Transfer patient is defined as having a Shock Index > 0.9 OR GCS ≤ 12 at the initial hospital.

<sup>\*\*\*</sup>ISS Critical Transfer patient is defined as having an ISS > 15.

<sup>\*\*\*\*</sup>Patients with a probability of survival ≤ 0.5.

## Transfer Patient Data - Page 15



\*The thickness of the line indicates the frequency of transfers out of or within the public health preparedness district. The circles represent transfers from a specific PHPD, not of a specific hospital or county.

| For Transfer Patients:                                     |  |                    |
|--|--|--------------------|
| Public Health<br>Preparedness District<br>Initial Hospital | Public Health<br>Preparedness District<br>Final Hospital | Incident<br>Counts |
| 1  | 1  | 7                  |
| 1  | 2  | 8                  |
| 1  | 5  | 12                 |
| 2  | 2  | 12                 |
| 2  | 3  | 8                  |
| 2  | 5  | 8                  |
| 3  | 3  | 121                |
| 3  | 5  | 1                  |
| 4  | 3  | 7                  |
| 4  | 4  | 14                 |
| 4  | 5  | 64                 |
| 5  | 5  | 125                |
| 5  | 8  | 2                  |
| 6  | 3  | 5                  |
| 6  | 5  | 86                 |
| 6  | 6  | 15                 |
| 7  | 5  | 72                 |
| 7  | 7  | 5                  |
| 7  | 8  | 1                  |
| 7  | 10   | 1                  |
| 8  | 5  | 35                 |
| 8  | 8  | 17                 |
| 9  | 5  | 3                  |
| 10<br>10   | 5<br>10  | 11<br>84           |
| 10   | 10   | 84                 |

## Transfer Patient Data - Page 16

#### For Linked Transfer Patients:

| For Transfer Patients:                         |                          |                         |                               |                       |                         |
|--|--------------------------|-------------------------|-------------------------------|-----------------------|-------------------------|
|  | All Transfer<br>Patients | Critical*               | Physiological Criti-<br>cal** | ISS Critical***       | <u>Ps &lt;0.5****</u>   |
| Number of Patients                             | 724                      | 407                     | 384                           | 60                    | 5                       |
| Total Time                                     | 4 hours<br>42.5 minutes  | 4 hours<br>41.3 minutes | 4 hours<br>41.5 minutes       | 4 hours<br>46 minutes | 2 hours<br>19.2 minutes |
| Total Mileage                                  | 55.0                     | 53.7                    | 53.0                          | 63.1                  | 61.0                    |
| Injury Scene to Initial<br>Hospital Mileage*** | 7.5                      | 8.1                     | 8.2                           | 6.8                   | 5.3                     |
| Initial Facility to<br>Final Facility Mileage  | 47.5                     | 45.6                    | 44.7                          | 56.3                  | 55.7                    |

#### **Estimated Average Distance (miles) by Region (region of final hospital):**

| Region          | Injury Scene to<br>Initial Facility Mileage <sup>†</sup> | Initial Facility to Final<br>Facility Mileage | Total Mileage | Drive Count | Air Count |
|-----------------|--|---|---------------|-------------|-----------|
| Indiana Average | 7.5  | 47.5  | 55.0          | 604         | 120       |
| North Region    | 6.7  | 43.4  | 50.0          | 263         | 39        |
| Central Region  | 8.5  | 56.7  | 65.2          | 162         | 52        |
| South Region    | 7.9  | 43.9  | 51.8          | 179         | 29        |

<sup>\*</sup>Critical patient is defined as having a GCS ≤ 12, OR Shock Index > 0.9 OR ISS > 15 at the initial hospital.

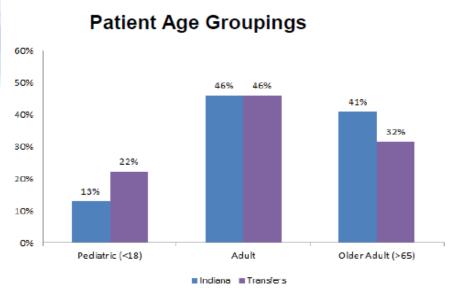
<sup>\*\*</sup>Physiological Critical Transfer patient is defined as having a Shock Index > 0.9 OR GCS ≤ 12 at the initial hospital.

<sup>\*\*\*</sup> ISS Critical Transfer patient is defined as ISS > 15 at the initial hospital.

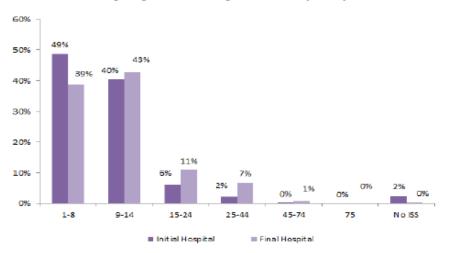
<sup>\*\*\*\*</sup>Probability of Survival < 0.5

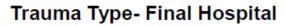
<sup>†</sup>Injury Scene to Initial Facility Mileage location estimated by zip code centroid
Statistics for Estimated Average Distance by Region calculated by Public Health Geographics, Epidemiology Resource Center, ISDH

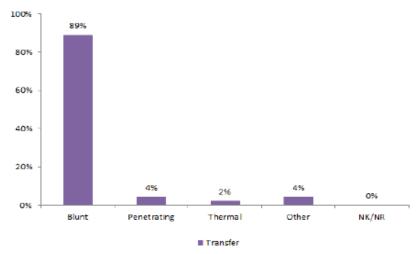
## **Transfer Patient Population - Page 17**



Injury Severity Score (ISS)

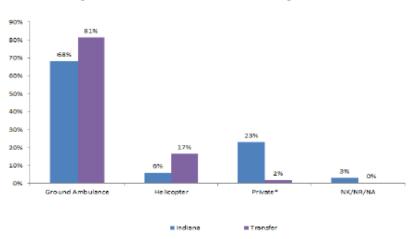






## **Transfer Patient Population - Page 18**

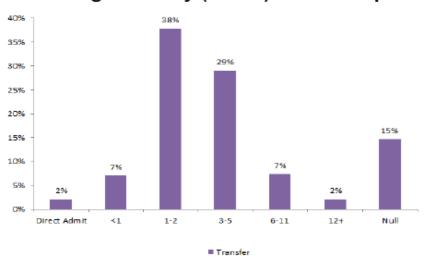
#### **Transport Mode- Final Hospital**



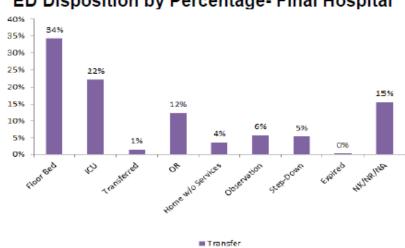
<1% Transport Mode: Police, Other

\* Indicates Private/ Public Vehicle, Walk-in

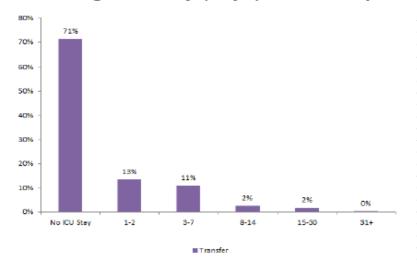
#### ED Length of Stay (hours)- Final Hospital



#### **ED Disposition by Percentage- Final Hospital**



#### ICU Length of Stay (days)- Final Hospital



Email questions to: indianatrauma@isdh.in.gov

## **Transfer Patient Population**

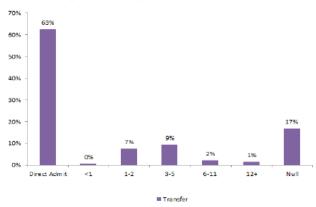
#### Quarter 3 2014

#### ED Length of Stay (hours)- Final Hospital



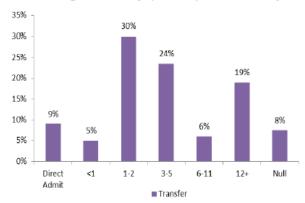
#### Quarter 1 2015

#### ED Length of Stay (hours)- Final Hospital



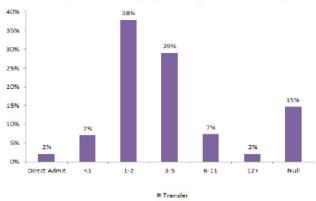
#### **Quarter 4 2014**

#### ED Length of Stay (hours)- Final Hospital



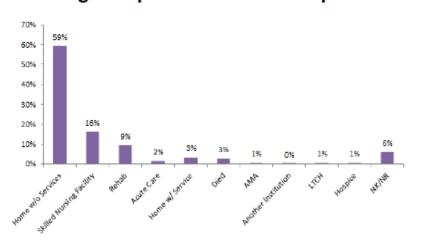
#### Quarter 2 2015

#### ED Length of Stay (hours)- Final Hospital

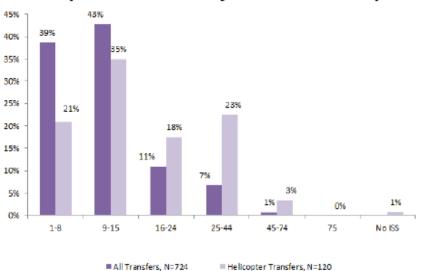


## **Transfer Patient Population - Page 19**

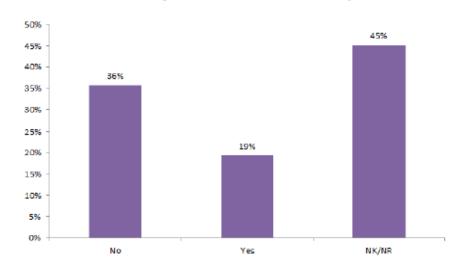
#### **Discharge Disposition- Final Hospital**



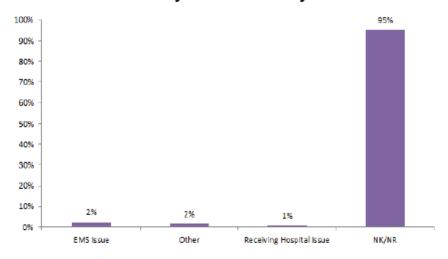
#### Helicopter Transfers by ISS- Final Hospital



#### Transfer Delay Indicated-Initial Hospital



#### Initial Facility Transfer Delay Reason



### Higher than Average ED LOS for Transferred Patients

#### **Hospital ID**

ID 1

**ID 34** 

**ID 44** 

ID 73

ID 84

**ID 90** 

ID 92

**ID 94** 

ID 97

**ID 99** 

ID 109

ID 122

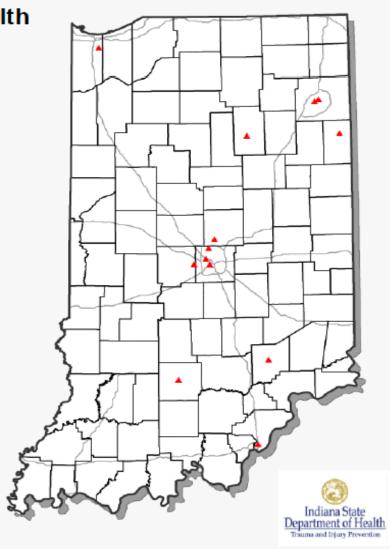
Email questions to: indianatrauma@isdh.in.gov

## Not Reporting Map - Page 20

#### Indiana State Department of Health Indiana Trauma Registry

Hospitals Not Reporting Trauma Data to the Indiana Trauma Registry

Adams Memorial Hospital
Community Westview Hospital
IU Health - West Hospital
Kentuckiana Medical Center
Parkview Wabash Hospital
Richard L Roudebush VA Medical Center
St. Joseph Hospital (Fort Wayne)
St. Mary Medical Center Hobart
St. Vincent - Carmel Hospital
St. Vincent - Dunn Hospital
St. Vincent - Fishers Hospital
St. Vincent - Jennings Hospital
St. Vincent - Peyton Manning Children's
VA Northern IN Healthcare System



Not reporting as of 10/1/2015

Map author: ISDH Trauma & Injury Prevention - October 2015

## Reporting Map - Page 50

## Indiana State Department of Health Indiana Trauma Registry

Hospitals Reporting Trauma Data Quarter 2, 2015 April 1, 2015 – June 30, 2015

#### TILevel I and II Trauma Centers

Deaconess Hospital
Eskenazi Health
IU Health - Methodist Hospital
Memorial Hospital of South Bend
Parkview Regional Medical Center
Riley Hospital for Children at IU Health
St. Mary's Medical Center of Evansville
St. Vincent Indianapolis Hospital

#### ■ Level III Trauma Centers

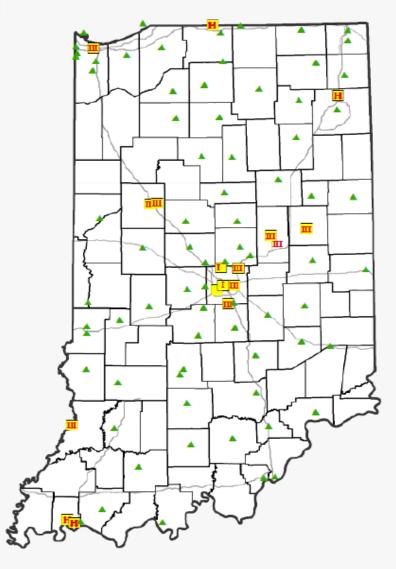
Community Hospital of Anderson
Community Hospital - East
Community Hospital - North
Community Hospital - South
Franciscan St. Elizabeth East Hospital
Good Samaritan Hospital
IU Health - Arnett Hospital
IU Health - Ball Memorial Hospital
Methodist Hospital - Northlake Campus
St. Vincent Anderson Regional Hospital

#### ▲ Non-Trauma Hospitals

76 Non-Trauma Hospitals

Hospital categories include Verified and "In the Process" Trauma Centers





Map Author: ISDH ERC PHG and ISDH Trauma & Injury Prevention - July 2015

## Questions?



## Updates



## Injury Prevention Updates

December 11, 2015

Jessica Schultz, MPH, Injury Prevention Epidemiologist

Division of Trauma and Injury Prevention



Email questions to: indianatrauma@isdh.in.gov



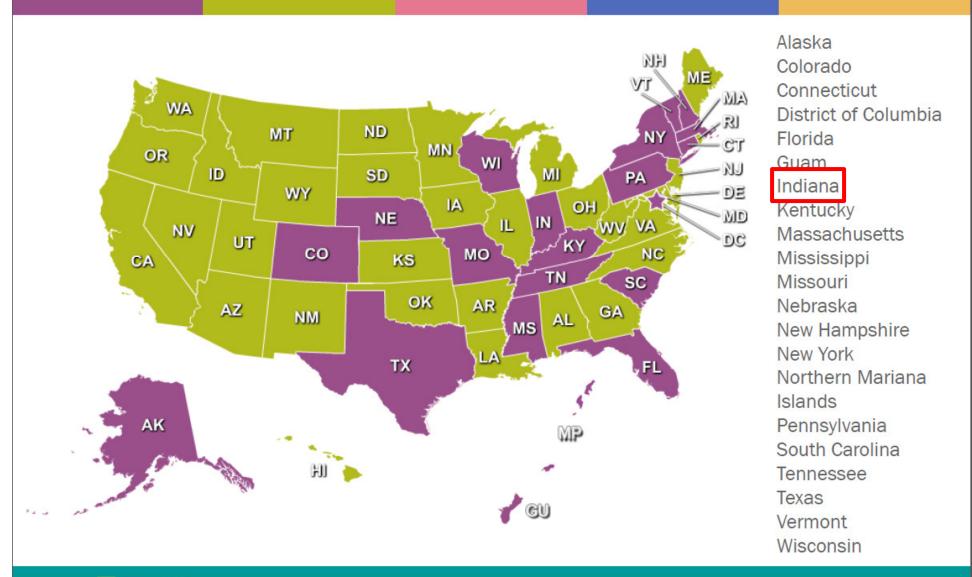
Child Safety Collaborative Innovation & Improvement Network

## **Child Safety COIIN**



Email questions to: indianatrauma@isdh.in.gov

#### States & Jurisdictions Participating in the CS CollN



## Resource Guide & App Development



## Resource Guide App

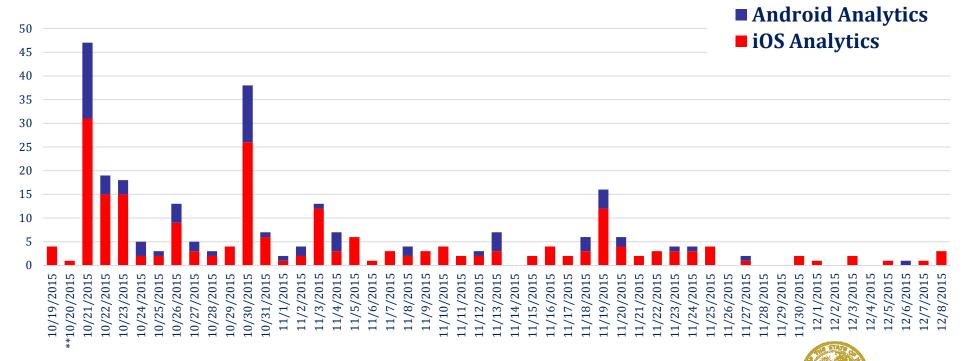


- Injury Prevention at your fingertips
- Free download for iOS & Android
  - phone & tablet capabilities
- Available in Apple & Google Play stores



85

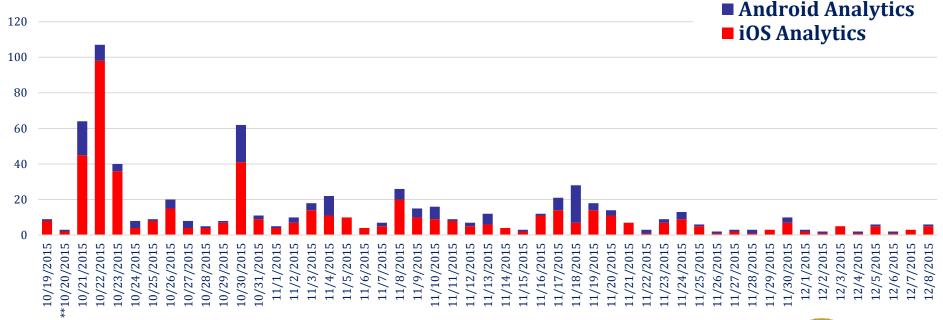
## Installs per day, N = 336



\*\*ISDH press release on 10/20/2015

Indiana State Department of Health

## Launches per day, N = 1,385



\*\*ISDH press release on 10/20/2015



Email questions to: indianatrauma@isdh.in.gov

## Program Evaluation – Measuring Impact and Continuously Improving Implementation for Success

Sally Thigpen, MPA

Division of Analysis, Research, and Practice Integration

Core VIPP Evaluation Team

December 10, 2015



## Integrating Processes to Achieve Continuous Quality Improvement

- Continuous Quality Improvement (CQI) cycle.
  - Planning—What actions will best reach our goals and objectives.
  - Performance measurement — How are we doing?
  - Evaluation—Why are we doing well or poorly?



Credit: Tom Chapel, MA, MBA

### **SMART Template**

| Key Component | Objective                             |
|---------------|---------------------------------------|
| Specific      | What is the specific task?            |
| Measurable    | What are the standards or parameters? |
| Attainable    | Is the task feasible?                 |
| Reasonable    | Are sufficient resources available?   |
| Time-Bound    | What are the start and end dates?     |

http://www.cdc.gov/phcommunities/resourcekit/evaluate/smart objectives.html

# CDC CORE STATE VIOLENCE AND INJURY PREVENTION (CORE SVIPP) FUNDING OPPORTUNITY ANNOUNCEMENT

### Core SVIPP

- Duration: 5 years, beginning 8/1/2016
- Ave. Award: \$250,000 (\$200,000-\$475,000)
- FOA Released 12/7/2015
- Letter of Intent due 3/1/2016
- Application due 4/8/2016
- Will need LOS from partners!



### Core SVIPP

- Four Priority Focus Areas:
  - Child abuse and neglect
  - Traumatic brain injury
  - Motor vehicle crash injury and death
  - Intimate partner/sexual violence
- Multicomponent: BASE
  - SQI
  - RNCO



## Strategies & Activities

- 1. Educate health department leaders & policy makers about Public Health approach to IVP
- 2. Engage, coordinate, and leverage other internal state department of health and external partners and Injury Control Research Centers or other injury research institutes
- 3. Enhance statewide IVP plan and logic model for 4 priority areas

## Strategies & Activities

- 4. Implement 3 strategies that address 4 priority focus areas one selected strategy must address shared risk and protective factors across two priority focus areas
- 5. Develop evaluation plan reflecting process and outcome measures
- 6. Disseminate surveillance and evaluation information to stakeholders and use to inform continuous quality improvement
- 7. Enhance surveillance systems to capture IVP data



Rachel Kenny, INVDRS Epidemiologist



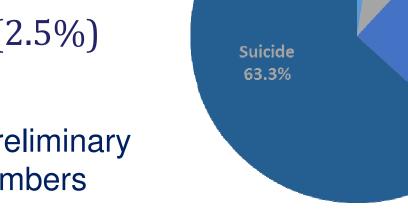


## **Death Certificates**

 1242 cases statewide (as of 11/17 DC update) Accidental

- 786 Suicides (63.3%)
- 308 Homicides (24.8%)
- 117 Undetermined (9.4%)
- 31 Accidental (2.5%)

\*preliminary numbers





Undeter mined

9.42%

24.8%

2.5%

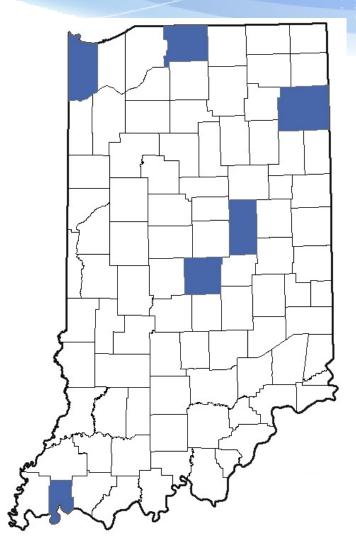
## **Death Certificates**

#### Pilot Counties

- 47.8% of all cases (594)
- 40.3% of all suicides (317)
- 75.6% of all homicides(233)

\*preliminary numbers





## Data Agreements, Collection and Abstraction

- 20 Coroner Data Sharing Agreements.
- 168 Law Enforcement Data Sharing Agreements.
- Received 183 reports (coroner and law enforcement).
  - Abstracted 90 of those reports.





## Coroner

- 228 coroner records requested
- 47 records received
- 41 records abstracted





## Law Enforcement

- 168 signed Data Sharing Agreements
  - 28 of the agencies are in pilot counties





## Law Enforcement

- 246 police records requested
- 136 records received
- 49 records abstracted





## Other Updates?



Email questions to: indianatrauma@isdh.in.gov